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EXAMINER	
PHAN, TRI H	
ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/823,480	STILES ET AL.	
	Examiner	Art Unit	
	Tri H. Phan	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *4-6,12-16 and 20-22* is/are allowed.

6)☒ Claim(s) *1,2,7-11,17 and 18* is/are rejected.

7)☐ Claim(s) *3 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Response/Amendment filed on February 23rd, 2005. Claims 1-22 are now pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-2, 7-9 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by **Locascio** (U.S.6,603,757).

- In regard to claims 1 and 17, **Locascio** discloses in Figs. 1-2C and in the respective portions of the specification about the *method and machine-readable medium that provides instruction to perform operations* ("programmable telecommunications switch"; For example see Fig. 1; Abstract; col. 1, lines 9-14) such as *receiving data from the number of interfaces via the first protocols* (For example see Fig. 1; col. 2, lines 43-59; col. 3, lines 9-16; which includes "line cards IO" connecting to circuit-based network/line interfaces, "VDAC cards" connecting to packet-based network interfaces, "ring IO cards" and "host interfaces" for receiving and

transmitting data to/from different networks with different protocols), *switching the data through the first switch fabric* ("Ethernet switch"; For example see Fig. 2A; col. 3, lines 57-63) *upon determining that the data is being processed as packet data to be transmitted via the second protocols* (For example see col. 3, lines 13-55; wherein, under the control of the CPU, data is transmitting through the Ethernet switch to appropriate protocols or type cards disclosed in col. 3, lines 13-16), *wherein switching the data through the first switch fabric includes de-encapsulating* ("depacketizing") *the first number of protocol headers associated with the first protocols from the packet data and encapsulating* ("packetizing") *the packet data with the second number of protocol headers associated with the second protocols* (For example see col. 4, lines 23-41; wherein the DSPs operate to perform packetizing and depacketizing the packets to convert from one protocol to another protocol), *switching the data through the second switch fabric different than the first switching fabric* ("TDM bus switch"; For example see Fig. 2A; col. 3, line 64 through col. 4, line 4) *upon determining that the data is being processed as Time Division Multiplexing 'TDM' traffic* (For example see Fig. 2A; col. 4, line 42 through col. 5, line 4).

- Regarding claims 2 and 18, in addition to features in base claims 1 and 17 (see rationales pertaining the rejection of base claims 1 and 17 discussed above), **Locascio** further discloses about *switching the data through the first switch fabric further comprises mapping TDM traffic into packet data* (For example see col. 4, lines 57-62).

- In regard to claim 7, **Locascio** discloses in Figs. 1-2C and in the respective portions of the specification about the *network element* ("programmable telecommunications switch" in Fig. 1), *which comprises the first line card having a number of first interfaces to receive data, the second line card having a number of second interfaces* (For example see Fig. 1; col. 2, lines 43-59; col. 3, lines 9-16; which includes "line cards IO" connecting to circuit-based network/line interfaces, "VDAC cards" connecting to packet-based network interfaces, "ring IO cards" and "host interfaces" for receiving and transmitting data to/from different networks with different protocols), *the first switch fabric* ("Ethernet switch"; For example see Fig. 2A; col. 3, lines 57-63) *coupling the first line card to the second line card, the control card* ("CPU/matrix card" ; For example see Fig. 1; col. 3, lines 17-55), *the second switch fabric* ("TDM bus switch"; For example see Fig. 2A; col. 3, line 64 through col. 4, line 4) *coupling the control card to the first line card and the second line card, the first line card to switch the data through the first switch fabric upon determining that the data is being processed as packets* (For example see Figs. 1-2A; col. 4, lines 23-29; wherein the Ethernet switch of the VDAC card receives data packets from different protocols and type cards as disclosed in col. 3, lines 9-16), *the first line card to switch the data through the second switch fabric different than the first switch fabric upon determining that the data is being processed as Time Division Multiplexing 'TDM' traffic* (For example see Fig. 2A; col. 4, line 42 through col. 5, line 4).

- Regarding claims 8-9, in addition to features in base claims 1 and 7 (see rationales pertaining the rejection of base claims 1 and 7 discussed above), **Locascio** further teaches about

receiving/transmitting the TDM signal through interfaces and packetizing out from the network element through the TDM signal (For example see Fig. 2A; col. 4, line 42 through col. 5, line 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Locascio** (U.S.6,603,757).

- In regard to claims 10-11, **Locascio** discloses in Figs. 1-2C and in the respective portions of the specification all the subject matter of the claimed invention as discussed above about the *network element* ("programmable telecommunications switch" in Fig. 1), *which comprises the first line card having a number of first interfaces to receive data, the second line card having a number of second interfaces* (For example see Fig. 1; col. 2, lines 43-59; col. 3, lines 9-16; which includes "line cards IO" connecting to circuit-based network/line interfaces, "VDAC cards" connecting to packet-based network interfaces, "ring IO cards" and "host interfaces" for receiving and transmitting data to/from different networks with different protocols), *the first switch fabric* ("Ethernet switch"; For example see Fig. 2A; col. 3, lines 57-63) *coupling the first line card to the second line card, the control card* ("CPU/matrix card" ; For

example see Fig. 1; col. 3, lines 17-55), *the second switch fabric* ("TDM bus switch"; For example see Fig. 2A; col. 3, line 64 through col. 4, line 4) *coupling the control card to the first line card and the second line card, the first line card to switch the data through the first switch fabric upon determining that the data is being processed as packets* (For example see Figs. 1-2A; col. 4, lines 23-29; wherein the Ethernet switch of the VDAC card receives data packets from different protocols and type cards as disclosed in col. 3, lines 9-16), *the first line card to switch the data through the second switch fabric different than the first switch fabric upon determining that the data is being processed as Time Division Multiplexing 'TDM' traffic* (For example see Fig. 2A; col. 4, line 42 through col. 5, line 4); but fails to explicitly disclose about the ingress packet processing circuitry to "*de-encapsulate the first number of protocol headers from the packets based on configuration data and fields within the first number of protocol headers*" and "*encapsulate the packet data with a second number of protocol headers based on the configuration data and the fields within the first number of protocol headers and the second number of protocol headers*". However, it is obvious that, in order to packetize and depacketize the packets and to convert from one protocol to another protocol for transmitting over the networks (For example see col. 3, lines 9-16; col. 4, line 42 through col. 5, line 4), the packets are depacketizing, e.g. "*de-encapsulating the protocol headers from the packets*", or packetizing, e.g. "*encapsulating the packet data*"; wherein the conversion is based on the types on the packets' header, e.g. "*based on the configuration and the fields within the headers*", to convert from one protocol to another protocol as disclosed in col. 4, lines 23-41.

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the "*de-encapsulate the protocol headers from the packets*

based on the configuration and the fields within the headers" and "*encapsulating the packet data based on the configuration and the fields within the headers*" in the protocol conversion as taught by **Locascio**'s system, with the motivation being to provide the ability to convert the protocols or types chosen to meet the needs of particular application in the transmission packet data.

Response to Amendment/Arguments

6. Applicant's arguments filed on February 23rd, 2005 have been fully considered but they are not persuasive.

Applicant argues that **Locascio** fails to disclose "*different switch fabric dedicated to switch different types of protocols*" and about "*de-encapsulating the protocol header*", "*encapsulating with another protocol header*". Examiner respectfully disagrees. **Locascio** does disclose about two different switches as the Ethernet switch ("*first switch fabric*") and the TDM bus switch ("*second switch fabric*"); wherein the Ethernet switch of the VDAC card, under the control of CPU/matrix card ("*control card*") receives data packets from different protocols/type cards and switches to the TDM bus switch if the packets contain time slots, e.g. "*TDM traffic*". **Locascio** also discloses about the packetizing and depacketizing the packets and to convert from one protocol to another protocol for transmitting over the networks (For example see col. 3, lines 9-16; col. 4, line 42 through col. 5, line 4), the packets are depacketizing, e.g. "*de-encapsulating the protocol headers from the packets*", or packetizing, e.g. "*encapsulating the packet data*"; wherein the conversion is based on the types on the packets' header, e.g. "*based on the configuration and the fields within the headers*", to convert from one protocol to another

protocol as disclosed in col. 4, lines 23-41. Therefore, Examiner concludes that **Locascio** teaches the arguable features.

Claims 2, 8-11 and 18 are rejected as in Part 3 and 5 above of this Office action and by virtue of their dependence from claims 1, 7 and 17.

Allowable Subject Matter

7. Claims 3 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 4-6, 12-16 and 20-22 are allowed. The following is an examiner's statement of reasons for allowance:

Claims 4-6, 12-16 and 20-22 are considered allowable since when reading the claims in light of the specification, none of the references of record-alone or in combination disclose or suggest the combination of limitations specified in the independent claims including.

Substantially regarding claims 4, 12 and 20, many references in the art disclose the programmable telecommunications switch which operates as a node in the telecommunications system for conducting voice and data from one protocol to other protocols by packetizing, depacketizing, converting methods. Most of those references comprise interfaces and other circuitry, such as that found in Locascio, Timothy Ray [U.S. 6,603,757], Williams, Kevin Wayne

[U.S. 6,356,550]. But no prior art reference utilizes de-encapsulating/encapsulating the protocol header, especially concatenating the packets into second TDM signal across any location within the TDM signal and wherein the size of the concatenating can be in increments of single TDM frames.

Substantially regarding claim 13, the prior art of record further fails to disclose the structure of the network element that comprises the first line card with the first physical connection circuitry, the first ingress packet processing circuitry and the first egress packet processing circuitry, the second line card with the second physical connection circuitry, the second ingress packet processing circuitry and the second egress packet processing circuitry, the packet mesh, the control card with the TDM switching circuitry, the TDM switch fabric connected with specific structure as claimed in the claim invention 13.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Provencher et al. (U.S.6,639,910) and **See et al.** (U.S.6,466,591) are all cited to show systems and methods for transmission data with different data types and protocols in the telecommunication architectures, which are considered pertinent to the claimed invention.

10. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on (571) 272-3126.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRIAN NGUYEN
PRIMARY EXAMINER

Tri H. Phan
June 23, 2005